

From: [Nitsch, Chad](#)
To: [Lee, Monica](#)
Cc: [Smith, Paula](#)
Subject: FW: Stan Meiburg follow-up
Date: Monday, March 23, 2015 9:28:13 AM
Attachments: [Floods In Boulder - A Study In Resilience.pdf](#)
[BHWC November 2014.pdf](#)
[Drought Resiliency PPT Nov2014.pdf](#)

Good Morning Monica,

During Stan's R8 visit, R8 highlighted two *good news* stories that Stan suggested might be worth sharing agency-wide: Boulder's green infrastructure that mitigated the impact of flooding and preserving a habitat for the Arctic Grayling (a type of fish). Paula provided background information on the two stories below. Regional Ops committed to connect OPA and R8 to discuss the possibility of amplifying these stories, if not already shared.

Thank you,

Chad Nitsch
Environmental Protection Agency
Office of Congressional and Intergovernmental Relations
Regional Operations
202-564-4714

From: Smith, Paula
Sent: Thursday, March 19, 2015 7:50 PM
To: Nitsch, Chad
Subject: FW: Stan Meiburg follow-up

Chad, Per you request, please find attached info on

- 1) Boulder's green infrastructure, designed to mitigate the impact of floods.
- 2) The 'Arctic Grayling issue' in MT, that, due to a grassroots partnership and drought resilience planning, a habitat was preserved.

Please let me know if you need anything further. Thanks for asking!

- Paula

1) Boulder Green Infrastructure Planning for Flood Mitigation

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Here are some discussion points on the City of Boulder's green infrastructure and the CO Floods from the attached document *Floods in Boulder – A Study in Resilience* (also attached as a PPT above):

“In the City of Boulder, flows were in the 1-in-25 to 1-in-100 year event range.”

“The City of Boulder ... has a Greenways Program for drainages that fulfills many objectives simultaneously. The objectives of the program are:

- Protect and restore riparian, floodplain and wetland habitat;
- Enhance water quality;
- Mitigate storm drainage and floods;
- Provide alternative transportation routes or trails for pedestrians and bicyclists;
- Provide recreation opportunities; and
- Protect cultural resources.

Under the Greenway Program, main creeks in many communities have been left as open corridors. Multi-use paths have been integrated into these corridors to provide recreational benefits and to garner support for maintaining a wide footprint of undeveloped land to either side of the creeks. Where creeks intersect roads, oversized underpasses have been built with paths to accommodate cyclists, runners and walkers. Funding for this construction comes from local and state flood control and transportation dollars and federal transportation money. On the edges of towns and cities, particularly around the City of Boulder, floodplains have been bought by the City and County and designated as “Open Space”, crossed by hiking trails and/or leased for grazing cattle.

During the floods, mitigated areas — the paths, underpasses and Open Space — “failed” as planned. Initial functionality for recreation and transport was replaced by the secondary function to route storm-water. Particularly in the City of Boulder, this avoided substantial potential damage. However, this type of mitigation can only be undertaken where the City has secured access rights along the full corridor. Consequently, smaller drainages — where land is a patchwork of publicly and privately held parcels — have not yet been mitigated.

In these neighborhoods, flooding was substantial. In places, families woke up to find streams running through their homes, slopes failed, and transportation routes were impassable. Overall, there was greater damage and impact in the city where the Greenways systems are in planning and design processes and have not been built out.”

A video describing how these Greenways functioned during the flood is available at:

<http://nextcity.org/forefront/view/you-cant-stop-urban-flooding>

Contact: Laura Farris

2) Arctic Grayling Issue

Attached are two Powerpoint presentations on the Big Hole Watershed Committee and associated Arctic Grayling issue in MT. The short summary is that in the Upper Big Hole

watershed, the watershed group organized state and federal agencies to develop a drought plan. The potential listing of arctic grayling was one of the primary drivers behind the effort.

The group has implemented its drought plan and, when instream flow triggers are exceeded (i.e., the stream flows get too low), ranchers stop (or reduce) the amount they are diverting for irrigation. FWS recently decided not to list arctic grayling as endangered. [There are more details in the attached ppts.](#)

Contact: Tina Laidlaw

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